In the Claims:

Claims 1-10 Cancelled

11. (Currently Amended) The method as recited in ~~Claim 10~~ Claim 21 further comprising adjusting said ~~parameter~~ parameters to achieve said component concentration at about 1E14 to 5E15 atoms/cm^2.

12. (Currently Amended) The method as recited in ~~Claim 10~~ Claim 21 wherein said ~~parameter is one~~ parameters are selected from the group consisting of: _RF power, microwave power, pressure, and temperature.

13. (Currently Amended) The method as recited in ~~Claim 9~~ Claim 21 wherein said ~~integrated~~ semiconductor circuit feature is a gate oxide.

14. (Original) The method as recited in Claim 13 wherein said component is nitrogen.

15. Cancelled

16. (Currently Amended) The method as recited in ~~Claim 9~~ Claim 21 wherein ~~said one of~~ said selected wavelength ~~wavelengths~~ is between about 290 nm and about 400 nm.

17. (Currently Amended) The method as recited in Claim 16 wherein said ~~one of said~~ selected wavelengths are between ~~is selected from the group consisting of:~~ about 308 nm, and about 329 nm.

18. (Currently Amended) The method as recited in ~~Claim 9~~Claim 21 wherein said component concentration is related to said peak intensity as estimated by the equation y = -1.02E16 + 2.53E15 ln (x), wherein x is said peak intensity and y is said component concentration.

19. (Currently Amended) The method as recited in ~~Claim 9~~Claim 21 wherein said ~~integrated~~ semiconductor circuit feature has a thickness ranging between about 13 Angstroms and about 17 Angstroms.

20. Cancelled

21. (New) A method of manufacturing a semiconductor device comprising the steps of:

forming a first multiplicity of semiconductor circuit features having a selected thickness;

providing a plasma chamber and an OES (Optical Emission Spectroscopy) for monitoring light emissions;

nitriding said multiplicity of semiconductor circuit features on said multiplicity of substrates in said chamber using a plasma;

monitoring the light emissions in said plasma chamber during said nitriding of said multiplicity of semiconductor features;

collecting intensity data representative of optical energy emitted at different wave lengths during said nitriding of said multiplicity of semiconductor features;

determining the peak intensity at different wavelengths of said monitored light emissions over a selected period of time reached at a multiplicity of settings of at least one selected parameter controlling the plasma generated in the chamber and the correlation between peak

intensity level and the concentration level of a selected component in said semiconductor feature;

selecting a wave length of light having a strong correlation with the peak intensity level representative of a desired concentration level of said component in said feature of a semiconductor circuit and adjusting said at least one selected parameter controlling the plasma generated in a plasma chamber to a setting corresponding to said selected peak intensity level;

nitriding another circuit having said semiconductor features with said selected thickness and monitoring the intensity level of said selected wave length of light during said nitriding of said another circuit; and

continuing nitriding said another circuit until said intensity level of light emissions at said selected wavelength stops increasing, the intensity level of which said selected wavelength stops increasing representing the peak intensity level.

22. (New) The method of claim 14 wherein said gate oxide feature of said semiconductor circuit is implanted with nitrogen ions (N_2+) and annealed prior to said step of plasma treating.

23. (New) The method of claim 22 wherein said implantation dose is between about 1E14 atoms/cm^2 and about 1E15 atoms/cm^2.

24. (New) The method of claim 23 wherein annealing of said gate oxide feature is at a temperature of between about 1000°C and about 1050°C.

25. (New) The method of claim 14 wherein said plasma treating is maintained for a period ranging between about 3 minutes and about 5 minutes.

26. (New) The method of claim 14 wherein said plasma treating step comprises a gas flow rate of between about 600 SCCM and 3000 SCCM.

27. (New) A method of manufacturing a semiconductor device comprising the steps of:

providing a plasma chamber and an (Optical Emission Spectroscopy) OES for monitoring light emissions;

monitoring the light emissions in said plasma chamber during plasma treatment of a multiplicity of semiconductor circuits having a feature with a selected thickness;

collecting intensity data representative of optical energy emitted at different wavelengths of light during the plasma treatment;

determining the peak intensity level of selected wavelengths of said monitored light emissions for a multiplicity of settings of at least one selected parameter controlling the plasma generated in the plasma chamber and the correlation between said peak intensity level and the concentration level of a selected component in said semiconductor feature;

selecting a wavelength of light having a correlation with the peak intensity level representative of a desired concentration level of said component in said feature of a semiconductor circuit, and adjusting said at least one parameter controlling the plasma generated in a plasma chamber to a setting corresponding to said determined selected peak intensity level;

plasma treating a semiconductor circuit in the process of being fabricated and having said feature with said selected thickness, and monitoring the intensity level of said selected wavelength of light during said plasma treatment; and

continuing said plasma treatment of said semiconductor circuit until said intensity level of light emission at said selected wavelength reaches its peak intensity level and stops increasing.

28. (New) The method as recited in Claim 27 wherein said parameters are selected from the group consisting of: RF power, microwave power, pressure, and temperature.

29. (New) The method of claim 27 wherein said selected wavelength is between about 100nm and about 900nm.